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Maurice Husson

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EXAMINER

ARNOLD, ERNST V

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,471	<b>Applicant(s)</b> HUSSON ET AL.	
	<b>Examiner</b> ERNST V. ARNOLD	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/9/09</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

Claims 1-8 have been cancelled. Claims 9-28 are pending and under examination. Applicant has filed a new IDS which has necessitated a new ground of rejection. Accordingly, this Action is FINAL.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 4/9/09 was filed after the mailing date of the non-final Office Action on 10/16/08. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-11, 19-21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Virtanen (WO 97/38940).

Virtanen disclose in claims 1, 7 and 8:

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1. A method for recovering precipitated calcium carbonate, PCC, according to which method

- PCC is separated from the reaction mixture by filtration, and
- the PCC-containing precipitate collected onto a filter (3-5;21) is washed with water to separate by-products from the PCC,

characterized in that

- PCC is washed with washing water into which carbon dioxide is dissolved in an amount that is sufficient to convert at least a portion of the hydroxy compounds in the precipitate into the corresponding carbonate compounds.

7. The method according any of the preceding Claims, wherein a dispersing agent is added to the neutralized precipitate, whereafter the precipitate is suspended.

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8. The method according to Claim 7, wherein dispersion is carried out in two stages such that most of the dispersing agent is added to the filter cake in the filter (3 - 5; 21), whereafter the filtered cake is suspended.

And from page 8, lines 13-22:

**The dispersion step is most suitably carried out in two stages, whereby most of the dispersing agent is added to the filtered cake in the filter, whereafter the rest is added while the filtered cake is suspended. This enables adjusting the viscosity of the PCC suspension accurately to the desired value. Typically the desirable value for viscosity is, for example, 100 - 500 cP, preferably about 200 - 400 cP. The addition of dispersing agent in the filter is most suitably carried out such that about 60 % of the dispersing agent is added to the PCC cake in the filter. The pressure variation is the same as is used for washing, and the solids content of PCC is about 40 %. The aqueous filtrate is used for washing. The rest of the dispersing agent, that is, about 40 %, is only added to the mixer when the PCC cake is being resuspended. The material is dispersed rapidly as it already contains some dispersing**

Thus Virtanen fairly discloses a method of that obtains a filter cake that is rapidly dispersed which applicant calls: "fluid mineral matter". Since water is disclosed by Virtanen then the solution would be aqueous. Since the dispersion filtration of claim 8 follows the water filtration of claim 1 then the steps are interpreted to be continuous.

Virtanen discloses on page 8, lines 8-11:

**Because the PCC precipitate contains very small particles, the van der Waals forces between the crystals are quite strong, and it is not possible to manipulate the particles without the aid of a dispersing agent. Commonly known polyelectrolytes, like polyacrylate, may be used as the dispersing agent or disperser.**

Virtanen discloses using high shear in the method (page 11, line 6). Virtanen discloses a use in paper coating (page 1, line 23).

Thus, instant claims 9-11, 19, 20, 21 and 23 are anticipated.

**Response to arguments:**

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Applicant asserts that the second filtration of Virtanen is not continuous because use of dispersant is first described in claims 7 and 8 which requires that the dispersant agent is added to the neutralized precipitate and neutralized precipitate is first mentioned in claim 6. This argument is not persuasive. First of all, claim 7 is dependent on any one of the preceding claims and not just claim 6 and claim language is controlling. Second of all, Virtanen discloses in claim 1 that the water used in the wash contains dissolved carbon dioxide which forms carbonic acid in aqueous solution thus inherently neutralizing the precipitate. The rejection is maintained.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claims 9-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleakely et al. (US 5,833,747) in view of Izaki et al. (US 3,970,629) and Anderson et al. (US 4962279).

Applicant claims:

9. (New) A process for the preparation of an aqueous suspension of fluid mineral matter from a concentrated cake comprising performing two separate stages of filtration, wherein in the first filtration stage, a pre-layer of mineral matter is formed on a filtration membrane in the absence of a dispersant agent, and in the second filtration stage, which is operated continuous to the first, the pre-layer is treated with a second aqueous suspension containing a dispersant agent to obtain a filtrate and a concentrated cake, wherein an aqueous suspension of fluid mineral matter is obtained from the concentrated cake.

#### **Determination of the scope and content of the prior art**

##### **(MPEP 2141.01)**

Bleakley et al. teach paper coating pigments and their production (title and abstract). Bleakley et al. teach precipitated calcium carbonate (PCC) products with dispersants (column 5, lines 29-44) present from 0.01 percent to 2.0 percent by weight based on the dry weight of the PCC present (column 5, lines 14-28). Bleakely et al. teach adding other pigments such as titanium dioxide (rutile type), kaolin clay and ground calcium carbonate (column 5, lines 56-67 and column 8, lines 29-31).

Bleakley et al. teach a method of making an aqueous fluid suspension containing dry calcium carbonate comprising the steps of dewatering a suspension of ground

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precipitated calcium carbonate in a pressure filter (thus reading on compression) to give a solid cake and then redispersing the cake in water with 0.8 wt% sodium polyacrylate dispersing agent in a high shear mixer to give a fluid suspension (column 7 example 1 and column 8, Table 2).

Izaki et al. teach paper coating compositions comprising the pigment aluminum hydroxide (abstract and claims 1-13).

Anderson et al. teach the concept of subjecting filter cakes to second filtrations (column 7, lines 22-47 and claims 1 and 10, for example).

**Ascertainment of the difference between the prior art and the claims**

**(MPEP 2141.02)**

1. The difference between the instant application and Bleakley et al. is that Bleakley et al. do not expressly teach a second filtration stage which is operated continuous to the first filtration stage. This deficiency in Bleakely et al. is cured by the teachings of Andersen et al.

2. The difference between the instant application and Bleakley et al. is that Bleakley et al. do not expressly teach controlling the amount of dispersant in the filtrate by measurement of the electrical conductivity of the filtrate; stopping as soon as the conductivity increases and using a HI 8820N conductivity meter.

3. The difference between the instant application and Bleakley et al. is that Bleakley et al. do not expressly teach adding aluminum hydroxide as the mineral matter. This deficiency in Bleakely et al. is cured by the teachings of Izaki et al.

### **Finding of prima facie obviousness**

#### **Rational and Motivation (MPEP 2142-2143)**

1. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to continuous filter the cake of Bleakley et al. wherein a second filtration stage which is operated continuous to the first filtration stage, as suggested by Anderson et al., and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because: 1) Anderson et al. teach that a second filtration can remove undesirable salts (column 7, lines 22-27 and 38-40); and 2) selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results. (In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (); In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.)

2. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to controlling the amount of dispersant in the filtrate by measurement of the electrical conductivity of the filtrate; stopping as soon as the conductivity increases and using a HI 8820N conductivity meter the cake of Bleakley et al., and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because one of ordinary skill in the art might want to know how much dispersant is in the filtrate. It is the Examiner's position that since Bleakely et al. teach adding the **same amount** of the **same dispersant** as claimed by applicant and the only requirement is adding the

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dispersant to the cake then what does it matter what the conductivity of the filtrate is because the same amount of dispersant is added and it would have the same effect. This limitation appears to be superfluous to the Examiner because the same aqueous suspension of fluid mineral concentrate is obtained in the absence of evidence to the contrary.

3. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add aluminum hydroxide, as suggested by Izaki et al. to the composition of Bleakley et al. and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because Bleakley et al. teach adding other pigments to the composition. "It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980). A

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of

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ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

**Response to arguments:**

Applicant asserts that Bleakley does not teach a continuous operation between the first and second filtration stages and that the Examiner has not provided any reason that the skilled artisan would be motivated to modify the teachings of Bleakely to include a second filtration step. Respectfully, the Examiner cannot agree. Besides being obvious to filter a precipitate, the art of Anderson et al. teaches a second filtration to remove undesirable salts. Applicant has not provided any unexpected results. Applicant's arguments are not persuasive and the rejection is maintained.

***Conclusion***

No claims are allowed.

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 4/9/09 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernst V. Arnold whose telephone number is 571-272-8509. The examiner can normally be reached on M-F (6:15 am-3:45 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ernst V Arnold/  
Examiner, Art Unit 1616

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